Newborn care practices and health seeking behavior in rural eastern Ethiopia: a community based study

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Keywords: newborn, care, practices, behavior, Ethiopia

Abstract

Background: Most of the newborns death in developing countries occur at home. Up to two-thirds of these deaths would have been prevented if mothers and newborns receive known and effective interventions**.** The objective of this study is to determine newborn care practices and health seeking behavior in rural eastern Ethiopia.

Methods: A community based cross-sectional study was conducted in Adadle District, Ethiopian Somali Regional State. A multi stage random sampling technique was applied. Women of reproductive age group (15-49 years) living in the Adadle District were eligible to participate in the study. Data were entered, cleaned and analyzed using SPSS version 19 for windows.

Results: A total of 829 women between the ages of 15 and49 years were involved in the study.. Of which, 698 women had a live birth, 23% reported that their babies were placed skin-to-skin with their mothers' belly/chest before the placenta was delivered, 79% of newborns were bathed within 24 hours of delivery. From this figure, 71% of the babies were bathed within the first 12 hours after delivery and 44% reported their baby was ill during the first week of life.

Conclusion: The study had shown suboptimal newborns practice in the study area, which put the newborns into significant health risk. Strong public education and capacity building to frontline health workers can be recommended.

Keywords: Newborn, care, health seeking, rural, Ethiopia

Introduction

According to a World Health Organization(WHO) report, deaths that occur among babies less than 28 days of life (neonatal period) account for approximately 40% of all under-five deaths [1]. In 2010, an estimated 3.1 million babies died during their first month of life [2]. In the past years, the number of neonatal death increased in proportion from under-five child deaths from 36% in 2000 to 41% in 2008[3]. Of these deaths, over 90% occur in low- and middle-income countries (LMICs), making the risk of death in the neonatal period in LMICs more than six times the risk occurred in high-income countries[4]. Most of these newborns are born in developing countries and most die at home[5]. Improvements in neonatal mortality rates are essential if countries are to meet their targets for Sustainable Development Goals (SDGs)[6]. Up to two-thirds of these deaths can be prevented if mothers and newborns receive known, effective interventions [7].

In Ethiopia, various national strategies were implemented to meet MDGs 4 in the past and still continue in sustainable development goals (SDGs). Although, Ethiopia achieved the MDG4 target ahead of time, the neonatal mortality rate (NMR) showed no sign of significant decline over the last decade. Despite the government plan to expand coverage of important newborn care interventions. In addition, improper and delayed health seeking behavior for the newborn care may have contributed substantially to the resulting neonatal mortality [8]. So the objective of this study is to assess the newborn care practices (including cord care, bathing of newborn and breastfeeding practices) and health seeking behavior in a predominately-rural pastoralist community in Adadle District of eastern Ethiopia.

Method and materials

Study area

This study was conducted in Adadle District- Gode zone of Ethiopian Somali Regional State. The region is located in eastern part of the country with an estimated total population of 5,307,002 consisting of 2,887,001 men and 2,420,001 women with 4,544,000(85.6%) of the population is estimated to be rural inhabitants, while 763,000(14.4%) are urban dwellers[9]. The district is one of the eight districts in the zone and located 18km away from Gode town. Adadle District has its own decentralized administrative hierarchies which constitute fourteen kebele

(the lowest administrative structure in the country) and 34 villages. The district has two functional health centers and one is under construction.

Study design and sampling

This is a cross-sectional descriptive quantitative community based study. The study was carried out in May, 2012. Women of reproductive age group (15-49 years) living in the Adadle District were eligible to participate in the study. A multi-stage random sampling technique was applied to select the required study subjects from identified kebeles and villages of the district. Kebeles were stratified based on their agro-ecological zone in the area. From the existing 14 Kebeles, one kebele from pastoralists and seven Kebeles from agro-pastoralist were randomly selected by simple random sampling technique and households were divided among the kebeles based on proportional to population size (PPS). The allocation of individuals to villages was also based on PPS sampling methodology. The sample size was estimated by using a single population proportion formula assessment of a cross-sectional survey. To estimate sample size for the survey, the following parameters were used: proportion of households with optimal newborn health (with key indicators of new born care indices): p of 50% as there is no prevalence study done in the operational area, precision of 5% on either side of the proportion and 95% confidence level. The computed sample size was 384 households. By adding 10% for non-responses and a design effect of 2, the final sample size was 844.

Data collection procedure

A structured questionnaire with closed and open-ended questions was used to collect the required information. It was adopted from similar studies and literatures mainly from Safe motherhood community based survey Ethiopia, Ethiopian National Baseline Assessment for Emergency Obstetric & Newborn Care and Demographic and Health survey (DHS) Ethiopia, the minimum initial service package and the World Health Organization Sexual and Reproductive Health and Newborn (WHO-SRHN)[10]. The questionnaire was first prepared in English language and then translated to the local language, Somali. The questionnaire was pre-tested prior to collecting the actual data in order to standardize the flow, content and translation accuracy. Data collection was carried out by fourteen data collectors (health professionals with a background of nursing and public health officer) who went through a two day long intensive training on data collection

technique, quality control and ethical issues. Three supervisors were assigned to supervise the data collection process and one of the researchers led the overall process.

Statistical analysis

Data entry was carried out using Statistical Package for Social Sciences (SPSS) for windows version 19. The same statistical package was also used for data cleaning, recoding, categorization and analysis. Descriptive statistics was done to assess basic respondent's characteristics and to calculate rates and ratios on the various indicators. Results were presented in form of tables, graphs and charts along with their summary descriptions.

Ethical Considerations

Ethical clearance was obtained from Somali Regional State Health Bureau and permission letter to conduct the study was granted from district health office administration. Verbal consent was also obtained from each study participants, since obtaining written consent was not feasible due to the educational level of the participants. The use of verbal consent was approved by the Somali Regional State Health Bureau Ethics Committee. The participants were briefed about the objectives and importance of the survey before the commencement of interviews and all interviews were conducted in areas where the privacy of the study participants was maintained.

Results

Socio-demographic Characteristics

A total of 829 women between the ages of 15-49 years were involved in the study, this gives a response rate of 98.2%. Most of the respondents were in the age group of 25-34 years. Most of the respondents in this study were either farmer (39.1%) or housewife (32.0%) by occupation and (76.7%) of the respondents educationally were illiterate.

Components of essential newborn care (ENC)

Thermal and cord care

Of the 829 women participated in the study 698 women had a live birth. Of which 23% reported that their babies were placed skin-to-skin on their mothers' belly/chest before the placenta was delivered. More than half (55.37%) of the live birth babies (n=531) were placed on the floor immediately after delivery, 71% of the babies were bathed within the first 12 hours after delivery (See table 1). The great majority (89%) of women reported that they used a new razor blade for

each delivered mother to cut the umbilical cord (Table 2). The majority of women (70 %) reported that nothing was applied to the cord after it was cut. Butter was most commonly (90 %) applied substance to the cord (See figure 1).

Breastfeeding status and child's size at birth

About 83% of women mentioned that they have ever breastfed their last child, 11% of the respondents threw away the colostrums and only 14% of them put their babies on breast before placenta was delivered. Thirty-three percent of the mothers reported that they have given their baby something to drink, other than breast milk, 7% said they do not remember giving something for the baby like drinks or breast milk (Table 3). Of 676 mothers who responded when asked if their babies were weighed at birth, 7% said their baby's birth weight was recorded. About 98% of mothers (n=275) reported their babies have average or more than average weight at birth (Table 4).

Newborn illness and health seeking behavior

Of the 698 women who gave live births sometimes in the past, 44% reported their baby was ill during the first week of life. Poor sucking (28%) and difficulty of fast breathing (22.6%) were the commonest health problems known by the study participants (Figure 2). Concerning knowledge of basic newborn care, breastfeeding (48.3%) and thermal care (drying and wrapping) (25.6%) were the two most known cares but cord care, as a basic newborn care, was mentioned by only 11.9% of study subjects (Figure 3). Result showed that in the two weeks period prior to the survey, 40% and 15% of the children in this study had fever and cough, respectively (Table 5).

Discussion

The study aimed at assessing the essential newborn care practice in the pastoral community of Ethiopia where there is a limited access to the health services. In this study, we found that 79% of newborns were bathed within 24 hours of delivery, 71% of the babies were bathed within the first 12 hours after delivery. In a study conducted in Nepal 64% reported that their newborns were wrapped within half an hour of birth and 92% had been washed within an hour of birth[11]. Studies have shown that bathing of newborns in the first hour after delivery results in a significantly increased prevalence of hypothermia irrespective of the use of warmed water and the application of the skin-to-skin method [12]. Therefore, there is a need to educate pregnant

women and their relatives about the recommendation that bathing should be delayed until after 24 hours of birth in order to avoid hypothermia [13, 14].

The majority (70 %) of women in this study reported that nothing was applied to the cord after it was cut and 18 % reported a substance applied. In contrary in a rural Indian study, only 17 percent of all women reported that they did not apply anything on the cord stump[15]. In Ethiopia, the national newborn care guidelines recommends that mothers or care providers should not apply anything on the cord stump[16]. Targeted and tailored behavioral change education on key newborn care measures including cord care should be the centerpiece of any maternal, newborn and child health interventions.

Result showed that about 83% of women reported that they have ever breastfed their last child, 11% threw away the colostrums. Evidences showed that exclusive breastfeeding reduces the risk of acute respiratory infections in young infants[17]. There are also indication that showed causal relationship between early initiation of breastfeeding and reduced infection-specific neonatal mortality in young infants[18]. It recommended that breastfeeding should be initiated within the first hour of birth and mothers should give colostrums to their babies as it provides the baby with high levels of antibodies and vitamin A [19]. Discarding the colostrums and feeding the child with sugar water, honey, or ghee makes the child vulnerable to infections[20] and yet majority of the mothers were influenced by the relatives and the primary care providers during childbirth [21]. Therefore, it is important to educate and counsel the mothers about the consumption of the colostrums by the baby and further breastfeed until six months period.

Of the 698 women who gave live births sometimes in the past, 44% reported their baby was ill during the first week of life. Illness recognition is fundamental in the decision to seek care, this can be particularly challenging in the neonate due to the lack of specific symptoms [22, 23]. Studies revealed that only 2.8 % of total participants had complete knowledge about neonatal danger signs, more than 50 % of the participants were not aware of a single danger sign[24] and 79(39.5%) of the caregivers had seen a sick neonate in their own family in the past 2 years. For this reason, mothers should recognize and promptly seek for care when she observes signs of severe illnesses on her baby. If the newborn presenting these danger signs is not provided with

appropriate care, there is high chance that s/he dies [25]. So improving maternal knowledge on important newborn care practices and danger signs determine the way the newborn cared for in the family.

Conclusion

Considerable number of babies (23%) putted on skin-to-skin with their mother before the delivery of placenta and majority of babies placed on floor (55%) and bathed within 24 hours (78%). Therefore, providing training for Health Extension Workers (HEWs), provision of clean delivery kit of basic supplies to HEWs, counseling the mothers/caretakers on essential newborn care to identify and refer newborns during danger signs is recommended.

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Disclaimer

The views, findings and conclusions represented in this article are those of the authors and do not necessarily represent the official views of the institutions with which they are affiliated.

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Figure legends

Figure 1: Substances applied to the cord, Adadle District, May 2012

Figure 2: Newborn Problems in the first week after birth in Adadle District, May 2012

Figure 3: Knowledge of basic newborn care Adadle District, May 2012

Table 1: Skin to skin contact, drying, wrapping and placement of baby prior to expulsion of placenta, Adadle District, May 2012

Essential Newborn Care practice	Number	Percent
Baby placed skin-to-skin on mother's belly/chest (n=693)		
Yes	160	23.09%
No	553	79.80%
Baby dried before the placenta was delivered(n=618)		
Yes	380	61.49%
No	67	10.84%
Do not know	171	27.67%
Baby wrapped before the placenta was delivered (n=566)		
Yes	439	77.56%
No	56	9.89%
Do not know	71	12.54%
Baby was placed immediately after birth (n=531)		
On the floor	294	55.37%
On the mothers belly\chest	216	40.68%
Beside the mother	17	3.20%
On newborn bed	4	0.75%
Baby bathed how long after birth (n=263)		
0 – 1 hour	6	2.28%
1 – <6 hour	113	42.97%
6 – <12 hour	68	25.86%
12 – <24 hour	21	7.98%
24 – <48 hour	39	14.83%
48+ hours	16	6.08%

Table 2: Cord care immediately after delivery, Adadle District, May 2012

Essential Newborn Care practice	Number	Percent
Material used to tie the cord (n=672)		
New string or thread	521	77.53%
String or thread	150	22.32%
Material for cord tie boiled (n=519)		
Yes	219	42.20%
No	252	48.55%
Do not know	48	9.25%
Material used to cut the cord (n=670)		
New razor blade	593	88.51%
Razor blade	29	4.33%
Scissors	9	1.34%
Do not know	39	5.82%
Used boiled material for cord cut (n=606)		
Yes	255	42.08%
No	303	50.00%
Do not know	48	7.92%

Table 3: Summary of breast feeding initiation and pre-lacteal feed as reported by study participants, Adadle District, May 2012.

Essential Newborn Care practice	Number	Percent
Newborn Ever Breastfed (n=531)		
Yes	438	82.49%
No	93	17.51%
Threw away colostrums (n=452)		
Yes	48	10.62%
No	404	89.38%
Baby put on breast before placenta was delivered (n=520)		
Yes	73	14.04%
No	283	54.42%
Do not remember	164	31.54%
Baby put on breast how long after birth (n=269)		
Within an hour	41	13.80%
1 – <6 hours	201	67.68%
6 – <12 hours	23	7.74%
12 – <24 hours	4	1.35%
Baby given something to drink or eat (n=698)		
Yes	227	32.52%
No	415	59.46%
Do not remember	51	7.31%
No response	5	0.72%
What was given (n=299)		
Milk	83	27.76%
Plain water	137	45.82%
Sugar/glucose	77	25.75%
Fresh Butter	1	0.33%
	1	0.33%

Table 4: Child's size at birth as reported by survey participants, Adadle District, May 2012.

	Number	Percent
Baby was weighed at birth (n=676)		
Yes	48	7.10%
No	539	79.73%
Do not remember	89	13.17%
Mother's perception of size of the baby (n=275)		
Very large	8	2.91%
Larger than average	7	2.55%
Average	254	92.36%
Smaller than average	5	1.82%
Very small	1	0.36%

Table 5: Health seeking behavior and place where care sought, Adadle District, May 2012

Health seeking behavior	Number	Percent
Baby had fever in the last two weeks (n=622)		
Yes	246	39.55%
No	354	56.91%
Do not know	22	3.54%
Baby had cough in the last two weeks (n=470)		
Yes	71	15.11%
No	352	74.89%
Do not know	47	10.00%
Care sought for illness from (n=281)		
Government hospital	27	9.61%
Government Health Center	142	50.53%
Government Health Post	20	7.12%
Clinic	5	1.78%
Community Health Worker	19	6.76%
Private Hospital	8	2.85%
Private Doctor	3	1.07%
Other private	2	0.71%
Pharmacy	7	2.49%
Traditional practitioner	47	16.73%
Other	1	0.36%

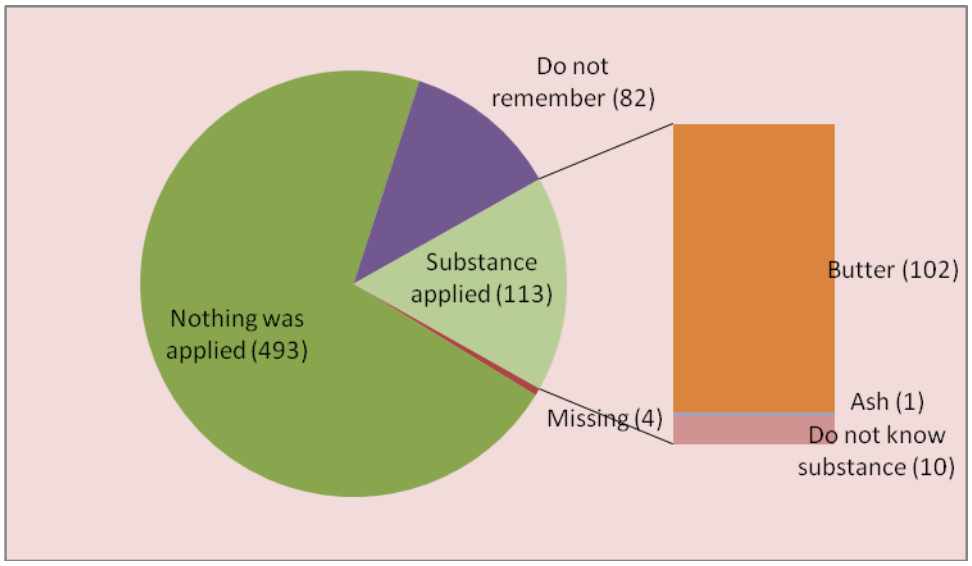

Figure 1: Figure 1: Substances applied to the cord, Adadle District, May 2012

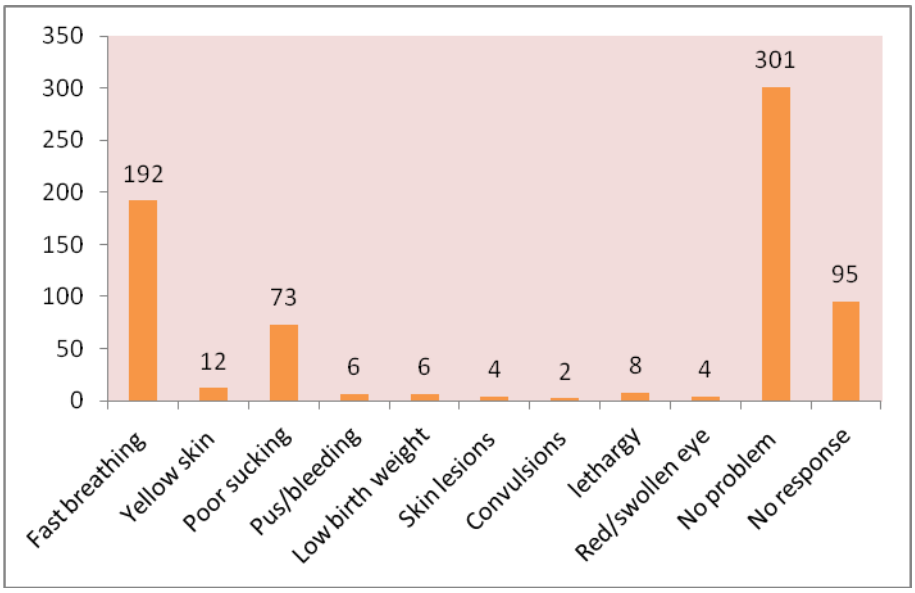

Figure 2: Newborn Problems in the first week after birth in Adadle District, May 2012

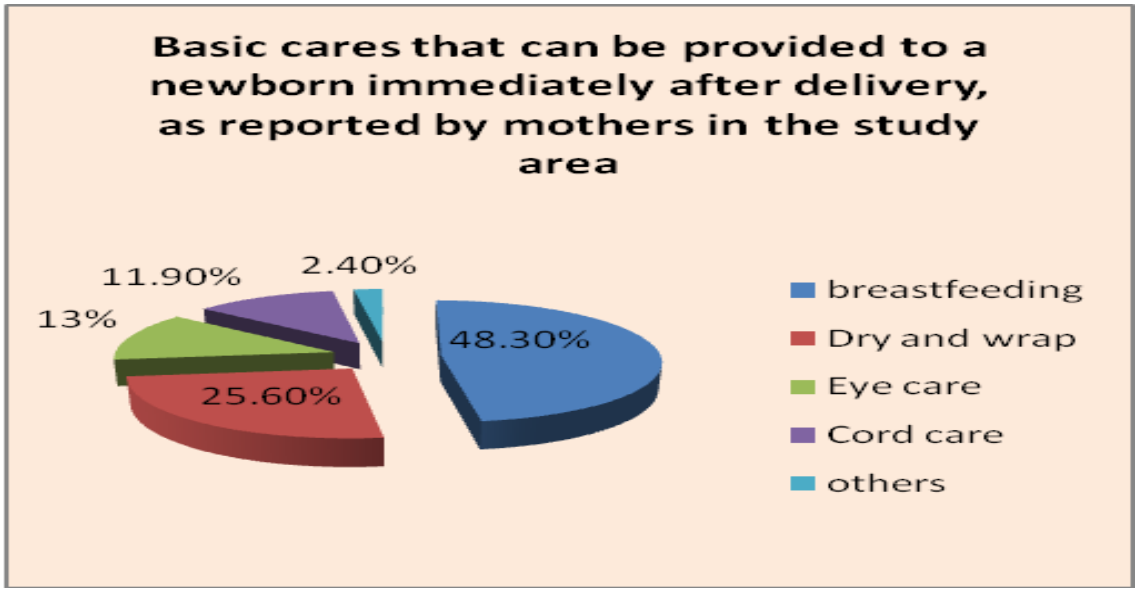

Figure 3: Knowledge of basic newborn care Adadle District, May 2012